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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,058	12/29/2000	Christian Georg Gerlach	Q62288	7011

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Washington, DC 20037-3213

EXAMINER

PERILLA, JASON M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,058

Applicant(s)

GERLACH, CHRISTIAN GEORG

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13 is/are rejected.
- 7) ☒ Claim(s) 1-12, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-15 are pending in the instant application.

Response to Arguments

2. Applicant's arguments, filed October 19, 2004, with respect to the rejected claims 1-8 and 12-15 have been fully considered and are persuasive. The prior art rejections of the final office action dated July 19, 2004 have been withdrawn and the finality of that action is withdrawn.

Drawings

3. The drawings are objected to because certain blocks in the figures are not properly labeled. In figure 2, reference 2 should be labeled according to the specification, and, in figure 9, references 30, 32 and 34 should be labeled according to the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct

Art Unit: 2634

any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1-15 are objected to because of the following informalities:

Regarding claim 1, in line 9, the "sample values" are lacking antecedent basis, and it is suggested that, in lines 9-10, "the signal in selected blocks" is replaced by –the selected predetermined number of blocks—to properly embody the invention and provide a more definite claim.

Regarding claim 2, in line 2, "the selected blocks" should be replaced by –the selected predetermined number of blocks—to properly embody the invention and provide a more definite claim.

Regarding claim 6, in line 2, "the sample values" is lacking antecedent basis.

Regarding claim 7, in each of lines 2 and 3, "the sample values" is lacking antecedent basis, and, in line 2, "selected blocks" should be replaced by –the selected predetermined number of blocks--.

Regarding claim 9, in line 2, "detecting a phase relation" is indefinite because the phase relation may not be definitely determined. The phase relation may be interpreted to be determined according to a phase relation between the first and second moments or the phase relation may be interpreted to be detected for each of the first and second moments. The use of "relation" implies a comparison or difference. Further, the determination of a phase change in line 3 is unclear because it may or may not be a

Art Unit: 2634

phase change between the first and second moments and an additional phase change is defined in line 7. It is suggested that the claim is amended as follows:

The method according to claim 1, wherein said detecting step comprises detecting a phase relation at a first moment and a second moment occurring a predetermined time after the first moment to ~~determine a phase change~~ from complex output values of the transforming step, ~~comparing~~ determining a first phase difference between the phase relations at the first moment and the phase at the second moments, determining with a second phase difference between the phase relations of the second moment and a phase of the third moment occurring the predetermined time after the second moment, and determining whether a phase change exists based on a result of the a comparing comparison of the ~~two~~ first and second phase differences.

Regarding claim 11, in lines 1-2, "characterized by its wherein implementation by evaluation of the formula" should be replaced by --characterized by the implementation of an evaluation of the formula--, in line 4, y_v , y_{v+2} , **and** y_{v+4} should be defined and "blocks" should be replaced by --selected predetermined blocks--, and, in line 5, "output signal of block $v+4$ " should be stricken and "blocks" should be replaced by --selected predetermined blocks--.

Regarding claim 12, in line 2, "the blocks or a number of blocks" should be replaced by --the blocks or the selected predetermined number of blocks--.

Regarding claim 13, in line 2, "a time-division multiplex" should be replaced by --time-division multiplex--.

Regarding claim 14, in line 4, "a analog-to-digital" should be replaced by –an analog-to-digital--, and in line 10, "values in selected blocks" should be replaced by – values of the selected predetermined number of blocks--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The method of time-division multiplexing critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Regarding claim 13, the claim is not enabled because one skilled in the art is not enabled by the specification to process a plurality of channels in a time-division multiplex based only upon the claimed processing of a time-division multiplex. One skilled in the art is not enabled to process a plurality of channels in time-division multiplex because the method of processing is not disclosed by the specification. No particular disclosure of any method for the processing of a plurality of channels in a time-division multiplex is provided in the specification, and one skilled in the art is therefore not able to make and use the invention. The use of offset blocks does not provide the essential information to perform time-division multiplexing of a plurality of

channels because it is itself indefinite and does not provide any essential steps or subject matter to enable the processing of a plurality of channels.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 13, the claim is indefinite because the limitation including "with offset blocks" of line 2 may not be clearly interpreted. Strictly, "offset blocks" are lacking antecedent basis. Further, one skilled in the art is unable to determine if the "offset blocks" are limiting blocks being offset among the blocks used for tone detection in one channel or if the limitation is relating to blocks being respectively offset among the blocks used for detection among the plurality of channels. As broadly as claimed, the use of "offset blocks" may not be appropriately applied because it does not provide for a definite interpretation for one having ordinary skill in the art.

Allowable Subject Matter

9. Withstanding the objections made above, indication of allowable subject matter is made regarding claims 1-12 and 14-25.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record not relied upon above is cited to further show the state of the art with respect to tone and phase change detection.

U.S. Pat. No. 6556674 to Li et al.

U.S. Pat. No. 6560331 to Cooklev et al.

U.S. Pat. No. 6731745 to Goto.

U.S. Pat. No. 6608896 to Felder et al.

U.S. Pat. No. 5809133 to Bartkowiak et al.

U.S. Pat. No. 5852638 to Chen et al.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
January 12, 2005

jmp



CHIEH M. FAN
PRIMARY EXAMINER